AMERICAN RAILROAD JOURNAL,

AND

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PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, January 15, 1848.

Index and Title Page to Vol. XX, 1847.

The Index to volume *twenty*, for 1847, which has been a little delayed, is forwarded with this number.

Missing Numbers of Vol. XX, 1847.

There are *three* things which we consider important just now, viz:—

1st. That those who wish to obtain missing numbers of the Journal, should apply soon.

2d. That those, who are now subscribers, will recollect, that, with a limited circulation, a Journal devoted mainly to a single interest, can only be sustained by prompt payment—we mean *in advance*, of course, as no one will believe that subscribers to the Journal delay payment.

3d. That we should have a large accession of new subscribers to our list!!

Reading Railroad and its Business of 1847.

We referred, in a recent number, to the business of this road, and its prospective increase. We now have the following statement which we find in the Ledger, made at the meeting of stockholders, on Monday the 10th inst. From this, it will be perceived, that the receipts for the year just past, have been $2,002,945, of which $1,693,661 was received for carrying coal, and the balance for ordinary freight, passengers and the mails.

The Ledger says:—Yesterday the annual meeting of the stockholders of the Reading railroad co. was held at the office of the company, in this city. We understand that the report of the business of the concern for the past year is highly flattering, and shows the company to be doing a most enormous business. The profits which equal twelve per cent., have been expended in permanent improvements on the road, and the stockholders, by vote, recommended that a dividend in stock, to that amount, be made to the stockholders.

The receipts from coal transp'd were	$1,698,663 99
" " " passengers.....	156,201 45
" " " freight on mdze ...	136,219 92
" " " trans. of mails, etc.	11,860 26
Total.....	$2,002,945 62
All expenses amount to.....	1,100,406 50
Balance of profits, to pay interest and dividends.....	$902,539 12

The total receipts of the company for the year, ending on the 1st of December, 1846, were $1,909,115, showing an increase of $102,139. The net increase of 1846 over 1845 was $530,490. All expenses in 1846 amounted to $862,320—all expenses for the year 1847, just closed, $1,100,406, showing an increase of expenditures of $218,086."

We have heard the policy of issuing stock to the shareholders, in lieu of cash, as dividend, questioned and disapproved; but if it is necessary to increase the *working stock* of the road, to meet the demands upon it for transportation, we see no mode more proper than to use the earnings of the road for that purpose, and to give to the shareholders an equivalent in the stock of the company.

We have not yet received the report, and cannot, therefore, speak further in relation to it—but when it comes to hand we shall publish it and speak of it as we think it deserves.

Columbus (O.) and Lake Erie Railroad Co.

We learn that the grading of this road, northward from Newark, Licking county, has progressed as rapidly as was anticipated when put under contract last May. The following extract from a letter, dated Newark, Jan. 8th, shows that Sandusky, as well as Cleveland, will have a railroad communication with Columbus. We are not, but should like to be, in possession of the views of the promoters of these two lines, as to the point of connection, or crossing—as well as in relation to the proposed point of connection with a line from Columbus, eastward, to the Ohio river. Will some gentleman, in that region, familiar with the matter, and the localities, give us the desired information?

The letter referred to says:—"The grading of 20 miles of this road, from Newark north, was contracted for in May last, and is nearly completed; and the residue of the distance between Newark and Mansfield, being about 40 miles, was placed under contract on the 1st of October last, and is progressing as rapidly as the state of the weather will admit.

We hope (if the season should be favorable as to weather) to have the superstructure and bridges ready for the laying the iron in all this year, 1848, on the whole distance between Newark and Mansfield, and other parts of the road in progress, in the meantime. We use the flat bar, 2½ by 1 inch. The delivery of timber, for superstructure, has been commenced, and the laying will be commenced in April next."

Portland Iron Company.

The Portland company is the only establishment in Maine engaged in the manufacture of locomotive engines, and from its connection with the Portland and Montreal railroad, has led us to watch its movements with much interest. At the time of our visit to Portland in the autumn, both the president of the railroad and the iron company, were absent at Montreal on business relating to the road. We recently wrote to a friend in Portland, asking of him information on the subject, and from his reply we gather the following facts in relation to the Montreal railroad, and the iron company, which will be interesting to our readers.

The Portland and Montreal railroad was projected in 1844; charters were obtained in both Maine and Canada, in 1845, and the surveys commenced the same year. More than $1,000,000 was subscribed to the stock of the Atlantic and St. Lawrence, or Maine company, and about $1,500,000 to that of the St. Lawrence and Atlantic, or Canadian corporation.

A convention was entered into by the two companies, in April, 1846, stipulating that the road should be constructed on the same general plan and system throughout its entire length, and A. C. Mouron, Esq., appointed chief engineer of the whole line.

As soon as the surveys would admit of it, a section at each end was placed under contract, and the work commenced at Portland with imposing ceremonies, on the 4th of July, 1846; in which the governor of Maine and a delegation from the Montreal company, took part. In Maine, 47 miles are far advanced toward completion, and in Canada, 45 miles are in a state of similar forwardness, and the road is to be opened for business at each end, the coming spring.

The railroad being commenced, the gentleman

who projected it, then proposed that works be established to furnish its iron and machinery; but the railroad company declined to embark in the business and he, therefore, procured a charter January 8, 1846, establishing "*The Portland Company*," with a capital of $250,000, with authority to manufacture iron, and any sort of machinery. Stock to the amount of over $150,000 was readily subscribed, principally by the large stock holders in the railroad, and the company organized by the choice of directors, Nov. 10th, 1846. John A. Poor, Esq., was appointed president, and Horace Felton, Esq. superintendent. Though having an independent organization, it is considered an immediate auxiliary, if not a part and parcel, of the railroad enterprise; and it entered into contract with the railroad company for furnishing its engines, cars, and other machinery.

As soon as organized, the company proceeded at once to the erection of the necessary machine and car shops. They purchased, and occupy, a lot extending 1200 feet upon the shore, where is found the deepest water in Portland harbor. The railroad possess in front of their lot, across a bridge 3000 feet in length, laid with a double track, and large vessels can be afloat at all times outside against this bridge. Inside of the bridge the company's lot embraces from 10 to 12 acres. The terminus of the railroad, at the foot of India street, is 1500 feet from the iron company's works; and all the land and flats between India street and the Portland company's lot and Portland harbor have been appropriated to the use of the railroad. Thirty acres of land and flats are thus included, inside the bridge. Outside the bridge wharves and docks can be constructed to such an extent as to give facilities for business superior to those offered at the terminus of any other railroad, within our knowledge, yet constructed. Beside the Montreal business, the great Eastern road to Walterville and Bangor enters the Montreal road 27 miles from Portland, and it is already under contract to Walterville 54 miles from the point of embranchment; and the accommodations are made in anticipation of a great freight road.

To construct for and supply the railroads in Maine, their engines and other machinery, was the design of the Portland company. Their principal machine shop is 150 by 62 feet, of brick, two stories, 16 feet and 13½ feet in the clear; already supplied with a large amount of the most approved and valuable tools and machinery. The smith shop is of brick, 75 by 62 feet, with a trip hammer and 13 forge fires, driven by a fan blower. The smoke flues are surmounted with an iron hood or cap, and carried under ground into the main stack, which is an octagon of most elegant and graceful proportions and finish, 10 feet diameter at the base, and 4½ feet at the top, 102 feet 8 inches high. The arrangement of the large fires is new, but works to admiration from the strong draft of the stack.

The foundry is of brick, 75 feet by 62, with two cupolas, capable of turning out 13 tons at one heat, driven by a fan blower.

These three buildings are connected, and are the finest specimens of architecture, for such purposes yet erected in the country; having slate roofs, iron gutters, and made fire proof on the outside. One steam engine drives all the work in these three main shops, the exhaust steam being used to warm the machine shop. The boiler house is a separate building, 34 by 22 feet, fire proof. The shop for boiler making is 90 by 40 feet, and a forge mill 80 by 60 feet, is to be put up for puddling and forging axles, etc. A car shop of brick, 200 feet by 50, is now going up, 3 stories high; and a second one 120 feet by 50 is to be finished at once, beside the necessary wood houses, store houses, etc. The office is 50 feet by 24 feet, finished with suitable safes, a clearing room, Directors room, Superintendent's room. Accommodations for cheap transportation are furnished by the railroad, canal boats, and vessels, all of which are used as convenience requires.

The question of rolling rails awaits the movements of the iron market in England.

The shops were opened for work in October last, and now employ near 100 hands. It is supposed this number will be doubled in the course of a few months. Beside the engines and cars for the Montreal railroad, the company have a large amount of orders for work to go elsewhere.

It does not require great sagacity to see that the works already commenced at, and terminating in, Portland, will soon give a new impulse to business there, and that the real estate in, and about, the city will increase in value, in consequence of those works, beyond the calculations of the most sanguine, and the influences will not stop at Portland, but spread over the entire state, giving new life and energy to the people—such, at least, are their influences elsewhere, and we know of no place more likely to be benefitted by them than Portland.

Mails--Comparative Cost of Transportation in the U. States and in England.

In the debate upon the carrying of the mails, Mr. Jones, of Tennessee, is reported to have said that "the country has made the experiment of cheap postage, and thus far it has succeeded well, far beyond what most of us expected, and fully equal to the hopes of its most sanguine friends. In England, a similar trial has met with a like result."

This is true, and he might, and *ought to*, have said that this very important result has been *mainly owing to the railroads*—and *but for* the railroads the measure could not have been accomplished within a quarter of a century to come.

Mr. Jones also says, in speaking of cheap postage in England, "there they have reduced the postage to a penny a letter, *and there scarce a railroad that transports the mail, makes to the government any charge at all for doing it. On some lines they charge a penny a mile, and in one instance, as I am informed, when they are paid any sum worth considering, it is when a railroad line is run in the night, and expressly and solely for the transportation of the mail.*"

We do not know upon what authority Mr. Jones makes these statements, but certainly we have never heard or seen any evidence, nor heard the assertion before, that such were the facts, but we have often seen *documentary* evidence of the reverse—and although we cannot now lay our hand upon the reports of all the English railroads, for 1846—we give three instances where the mail service is paid for, and at a much higher rate, too, than "*a penny a mile*"—though they are, comparatively, not first class routes.

The first is the South Eastern railroad, 66 miles from London to Dover. This company received, for carrying the mail, *six months, up to January* 31, 1847, £3,646, or $36,460 a year—equal to $552 per mile per annum!

The next is the *South Western* line, from London to Southampton, 76 miles. Their report for six months, to December 31, 1846, shows the receipts of £4,920 for "*mails and carriages.*" This is an awkward union of things, but we may assume, at least, *two-thirds* of it as for the mails—which gives $32,800—or $131 a mile.

And the third is the Dublin and Kingston road, of *six* miles in length, which received, for the year, ending February 28, 1847, £500, or $2500—equal to $416 a mile.

The "Great Western" railroad, from London to Bristol, put down in their half-yearly report, up to December 31, 1846, "mails, expresses, etc., £10,917," or $109,170, for the year; but, unfortunately, in this, as in many other reports, the mails are coupled with other matters, which prevents us from giving the precise amount paid for carrying the mails—yet we have given facts enough to show that Mr. Jones has been misinformed in relation to the cost of carrying the mails, in England.

We have given these facts from the reports of the different companies, all made within a year, and shall give others from time to time—that the railroad interest may have them when wanted—as we are quite satisfied that there is a fixed determination in certain quarters, to force a reduction of the present rates paid to railroad companies; a measure which may, possibly, be all right, though we should prefer to see a more liberal spirit evinced toward an interest which has contributed so much more to the benefit of the *millions*, who have *not*—than to the *hundreds* who have—furnished the capital.

With all the light thrown upon the subject by those who took part in the debate, we are not yet convinced of the right of the government to control the railroads, to which they have not contributed a dollar, any more than they have over the post coach and horses of the stage owner, or of the mules of Mr. Cave Johnson, on his plantation, in Tennessee; and we much doubt the justice of asking the company to pay to the "Bay line" the *damages* for the government's taking the mail from a route where it ought never to have been sent.

We would respectfully recommend that a system be adopted, by order of Congress, which shall fix the rate of compensation, for post coaches, at *five miles*, or other speed, per hour; and then let that price be increased on railroads in proportion to the *speed* with which the mail is carried—that is, pay more for 20 than for 15 miles per hour, and more for *thirty* than for *twenty* miles—in this way *good service* may be secured *for a fair compensation.*

The Post Master General and the Railways.

We regret to find that this question is not likely to be brought to a satisfactory and speedy termination. We had hoped that Congress would direct the department to resume the old service, at the old rates; and thus remedy the difficulty, and restore order and certainty in the transportation; but we have been disappointed.

As we wish to preserve a record of the leading features of the discussion, we give the joint resolution, with the first amendment of Mr. Jones, of Tennessee, and also a concise synopsis of the various propositions of members of the House, which we take from the Richmond Times.

"The joint resolution was read as follows:

"*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, That the Postmaster General be, and he is hereby authorized and directed to make engagements with the Richmond, Fredericksburg, and Potomac railroad and steamboat company, for the transportation of the great northern and southern mail between the city of Washington and the city of Richmond, and that he pay for said transportation the highest price now paid by the post office department for transporting the mail once per day on any other railroad and steamboat route in the United States, and no more; and that the said Postmaster General be authorized to allow to the contractors, under the recent arrangement, such an equivalent as, in his

judgment, shall be fair and equitable for the routes hereby dispensed with.

"Mr. JONES, of Tennessee, moved to amend the resolution by striking out all after the word "more," in the 11th line, and inserting—

"*Provided*, That in making such contract or engagement with the Postmaster General, the said Richmond, Fredericksburg, and Potomac railroad and steamboat company shall agree and engage with the Postmaster General to pay to the post office department such amount or sum of money as, in his judgment, shall be a fair and equitable equivalent to the contractors for transporting the mail from Baltimore to Petersburg and Richmond on the bay line, and to the contractors from Washington to Richmond, under the recent arrangement, as will indemnify said contractors by reason of the discontinuance of the said routes hereby dispensed with."

The amendment of Mr. Jones, if adopted, would give the Postmaster General "an opportunity of teaching the railroad company a lesson, if it also gave him power to enforce its intent."

On Friday the 7th the subject was resumed, and "the first vote was upon the proviso offered by Mr. G. W. Jones, to the resolution reported from the committee on the post office and post roads, the effect of which was to authorize the Postmaster General to contract with the railroad company, *provided* the company should pay the present contractors such damages as he should think proper.

"This proviso was adopted in committee by a vote of 80 to 65.

"Mr. Charles Brown offered an amendment which was ruled out of order, simply confirming the decision of the Postmaster General.

"Mr. G. W. Jones offered an amendment which he afterwards withdrew, directing the Postmaster General to make a new classification of the railroads into four classes: the first class to be paid $200 per year per mile; the second $150; the third $100, and the fourth $50. Mr. Jones said he would take another occasion to reach his object, which was nothing less than to reduce the compensation paid the railroads all over the country. The public will perceive in this proposition, the true secret of the present difficulty. The Postmaster General is bent on a general reduction of the pay, and the railroad company feeling, that to yield the ground they occupied under the award of President Tyler, would be to give Mr. Johnson's design its first foothold, have stoutly resisted, and we believe are resolved to resist to the end.

"Mr. Botts offered a verbal amendment (which he afterwards withdrew) for the purpose of getting the floor for a few minutes' explanation.

"Mr. Hall, of Missouri, submitted the following amendment:

"*Provided*, That nothing in this resolution shall be so construed as to require any increase of expenditure in the post office department."

"Mr Hall took the ground that he would vote for no increase of expenditure until his own part of the country was better accommodated. His amendment was adopted on a division—84 to 62.

"The vote was next on Mr. Meade's substitute, which we have published, directing that the mail be restored at $237 50 per mile, with 15 per cent. additional for night service, (a salvo for a railroad in Mr. Meade's district, on which the service happens to be in the night.)

"Mr. G. W. Jones moved to strike out the 15 per cent. from Mr. Meade's substitute, which was agreed to, and then the substitute as amended, was rejected, without a division.

"Mr. Goggin, (not Mr. Botts, as was first stated,) then submitted an amendment, directing the Postmaster General to renew the contract with the railroad company, at the rates existing before the 1st of July last. This amendment was rejected, yeas 49, nays 107.

"Mr. J. A. Rockwell moved that the committee rise and report to the House, with a recommendation that the joint resolution be recommitted to the committee on the post office and post roads, with instructions to inquire and report whether any, and what, further legislation of a general character is required in relation to the transportation of the mail by railroads and steamboats.

"Mr. McKay suggested a modification—adding the words: 'Also to ascertain the terms upon which the department can be released from the contract with the bay company for the transportation of the mail; also the terms upon which a contract can be made with the Richmond, Petersburg, and Potomac railroad company, for the transportation of said mail.'

"Mr. Rockwell accepted the modification; also, a modification of Mr. Hall, of Missouri, inserting the words, 'or any other mode,' after the original instructions.

"Mr. Jamieson moved that the recommitment be recommended, with instructions to the committee 'to report a bill granting equal mail facilities throughout the Union.'

"This was rejected, and then Mr. Rockwell's amendment also—yeas 85, nays 92.

"The committee then rose and reported to the House, the resolutions with the amendments that had been adopted, viz: the proviso of Mr. G. W. Jones, requiring the railroad company to pay indemnity to the present contractors, and the amendment of Mr. Hall, providing that the resolution should induce no increase of expense in the post office department."

On Monday the 10th, the subject was resumed in the House, when "Mr. Goggin said he wished to get rid of the resolution as it now stood, and therefore moved to recommit the whole subject to the committee on post offices and post roads, with instructions to report such facts as have come before it in the matter.

"Mr. Broadhead said the better way to get rid of the resolution would be to lay it on the table. He therefore made that motion. On which the yeas and nays were ordered, and stood, yeas 68, nays 124.

"On the passage of the resolution as amended, Mr. Jones of Tenn. called for the previous question; and the call had a second.

"The question, on agreeing to the amendment offered by Mr. Jones of Tenn., was put and decided by yeas and nays, and lost. Yeas 97, nays 96. The speaker voted in the negative, and declared the amendment lost.

"The vote on the amendment offered by Mr. Hall, of Missouri, was now put, and on it the yeas and nays were ordered, and they stood as follows:—Yeas 101, nays 91. So this amendment was adopted.

"The question was now put on ordering the resolution to be engrossed, and decided in the negative. So the resolution was killed."

The editor of the Times says, "our readers will perceive by the report of the proceedings of Monday, that Mr. Jones' substitute was rejected in the House by the vote of the speaker; that Mr. Hall's amendment was carried by a small majority, and that finally the resolution itself was rejected, being voted against, we presumed, by both parties.

"The whole question therefore remains as unsettled as at first; the House having spent as much money in its discussion as would have been required to transport the mail on the railroad for six months. The *per diem* alone of the 228 members amounts to $1,824. When to this are added expenses of clerks, door keepers, fuel, stationery, and the like, the cost of this profitless debate, occupying some five or six days, cannot be less than $15,000, which is about half the whole price of the transportation between Richmond and Washington."

Thomas Gray, the English Railway Pioneer.

The following letter is from the gentleman who claims to be the first in England who projected, and advocated, railways as a means of transporting merchandise and for travel.

We would not pluck a leaf from the chaplet which should, and *will*, in after times, adorn the brow of those who devised, and were instrumental in introducing railroads into use; but we cannot allow our own countrymen, STEVENS, and EVANS, to be forgotten, when the question of who were the originators of railroads is agitated. By a reference to the proceedings of Congress, in December, 1811, there will be found, if we are not mistaken, an able and interesting communication, from Col. JOHN STEVENS, of Hoboken, in which he describes, not only a *railroad*, but also the locomotive engine, almost as accurately as if he had had them in use before him. The time is not yet, for the history of railroads, and their originators, to be written; but it will come when full justice will be done; and certainly a less mead of praise and gratitude than is awarded to the discoverer of the *art of printing*, or of the *new world*, would not be equal and exact justice.

The Railway Record says, "the following letter from Mr. Gray, we copy from our excellent contemporary the *Weekly Times*:"

SIR,—In reference to my former communication (see your paper of the 19th September,) I beg the insertion of the following brief remarks:—The deplorable state of the railway share market arises, chiefly, from the extravagant method of working the locomotive engine. It is really painful to witness the reckless manner in which the share holders' money is squandered away; for, in order to economise the power of the locomotive steam engine, terms especially adapted to the respective commercial purposes should have been the leading features on the adoption of the railway system. It is quite absurd to see the locomotive engine impelling merchandise or luggage trains, on the same expensive principle as the passenger or mail train. If you have recourse to mechanical agency, as recommended by me on the opening of the Liverpool and Manchester line, every locomotive engine is capable of impelling five times the load now forwarded; but, if share holders will persist in closing their eyes to this fact, they must continue the slavish dupes of their servants, who have been forewarned over and over again.

Passenger trains, requiring great speed, might always precede the luggage trains, which should immediately follow in constant succession; but the still more perfect system would be, to confine each branch of commerce to its respective line, in both directions, and then, on perfectly straight and level lines, no accidents could ever happen, and all collision of trains would be entirely prevented.

The conveyance of merchandise of every description, on properly constructed railways, will far surpass, in annual revenue, the receipts for the conveyance of passengers; this never-failing source of trade, under the present miserably defective and extravagant system of railways, is almost prohibited.

So long as there is a paid directory leagued with engineers and the manufacturers of engines, rails, etc., etc., so long will you remain in the same pitiable plight as the share holders of the South Devon line, which is irrecoverably ruined, and left as a beacon to unfortunate share holders, who all seem now doomed to the like awful dilemma.

In support of my remarks, I now refer to the *Mechanics' Magazine*, vol. 15, page 190, which contains the following extract:—

"In 1811 Mr. Blenkinsop, of the Middleton colliery, near Leeds, took out a patent for the application of a rack or toothed rail, into which wheels turned by the engine were to work, and thus produce a progressive motion, and shortly afterwards he erected some engines on this plan on the Middleton colliery railway.

"They worked well, and to this day they continue to work well; indeed there never could or ought to have been any doubt upon the subject.

"For the conveyance of great weights, the rack rail must manifestly have an immense advantage over every description of plain rail, no gripe by mere adhesion of surface can ever match the gripe of a good set of teeth.

"Mr. Gray, of Nottingham, has strongly advocated the adoption of a mixed railway system—plain rails for speed—and toothed rails for heavy weights—and we incline to the opinion that, when economy comes to be more regarded by railway proprietors (as it will be ere long,) *this is the system which will be found most advantageous in practice.*"

From Blenkinsop's railway I date the origin of my national railway system of grand trunk railways, in direct and level lines throughout Great Britain and Ireland—see my work, entitled "Ob-

servations on a General Iron Railway"—and therefore I flatter myself that my fellow-townsmen of Leeds, *the place of my birth*, will not fail to claim the honor of a plan, during my lifetime, of which their children's children will, in after ages, be proud to boast.

The day is AT LAST arrived when these enemies of mine, who have stolen my plans—turn tables and sliding frames (*to be seen at every railway station,*) and palmed them off to the public as their own inventions, will now have the mortification to confess their guilt, and be sorry for their cruel conduct towards me. Here I am a living monument of their disgraceful behaviour, which shall be recorded as a warning to future ages. The secret poison is at last found out—*the jealousy of the engineers is pleaded as an excuse for not rewarding me!!*

It is only necessary for me to mention this circumstance to justify my claim upon public generosity. I am, sir, your obedient servant,

THOMAS GRAY, the Railway Pioneer.

Exeter, October 16, 1847.

Hartford and New Haven Railroad.

Twelfth Annual Report.

We give this report in full, showing a large increase of business during the past year—and a very flourishing state of affairs. The extension of the line through the entire valley of the Connecticut river, and into Canada as well as to New York must contribute largely to the business of the Hartford and New Haven road.

REPORT OF THE DIRECTORS.

Twelfth Annual Report of the Board of Directors to the Stockholders of the Hartford and New Haven Railroad Company.

The income of the company for the year ending August 31, 1847, is as follows:

From passengers		$177,133 00
" freight		90,681 32
" rents, storage, steamboats, express-es, p. o. department, and all other sources		56,910 96
		$324,725 28
The total amount of current expense chargeable to the cost of operating and maintenance of the road	$130,426 59	
The amount of interest paid on bonds and loans is	36,824 87	
	$167,251 46	
From the receipts		$324,725 28
Deduct expenses and interest		167,251 46
Balance of net income		$157,473 82

Cash on hand Sept. 1st, $65,824 44.

The receipts of the road have been materially greater than that of any preceding year. The actual increase has gone considerably beyond the estimate. It is also satisfactory to know that this increase is derived from no accidental or transient source, but from causes of a permanent character and steady in their operation.

The amount received from passages the last year is		$177,133 00
The amount received from passages the previous year		155,061 01
Increase		$22,071 99

Or 14 and one fifth per cent.

Amount received for freight, 1847	$90,681 32
" " " 1846	61,250 73
Increase	$29,430 59

Or 46 and one third per cent.

The number of passengers transported between all the stations the past year is 226,595. The previous year, 191,270—showing an increase of 33,325. It is gratifying to state that no accident, of a serious character, has occurred in the transportation of this large number of passengers.

The expenses of the year have been necessarily large. In addition to the rebuilding of the bridge over Connecticut river, all the important bridges between Hartford and New Haven have been reconstructed in the most improved and substantial manner. Large expenditures have been made on the engines and cars, and the equipment of the road is in every respect in as good condition as at the commencement of the year. An amount sufficient to cover any deterioration has been charged to the current expenses.

The increasing business of the road has required an addition to the stock of engines and cars. Two locomotives have been ordered and are now nearly ready for delivery. Two passenger cars, two second class cars, and thirty-four eight wheel freight cars have been put upon the road the past year.

The railroad bridge over Connecticut river was carried away on the 13th of October last. This disaster gave rise to apprehensions of prolonged interruption to business during the winter, which might seriously affect the income of the company. Happily these fears were not realized. Within six weeks after the destruction of the bridge, it was rebuilt and ready for the passage of the trains. The rapidity and energy with which this accident was repaired is creditable to the contractor who had the work in charge. The new bridge has been constructed in the most secure and substantial manner, and the cost charged to the current expenses of the year.

The branch railroad to Connecticut river was completed and put in operation on the opening of navigation in the Spring. The entire cost of the branch, including track, depot, and a valuable real estate on the bank of the river, is $85,607 64. The transportation done upon it is very large, and has fully justified the anticipations which led to its construction, and a large amount of business has been secured which otherwise would have been lost to the road.

At the last annual meeting, it was determined by a vote of the stockholders, to reconstruct at once the track between Hartford and New Haven with heavy rail. To provide means for this object, a sale of 3,000 shares of the reserved stock was authorized, and pursuant to authority given at a special meeting of the stockholders for that purpose, this stock was sold at a limit fixed by the company. The iron, of the best description, and weighing about 57 lbs. to the yard, was bought on favorable terms. The work of renewing the track was commenced in the month of April, and without any material interruption to the business of the road, was completed, with the exception of three miles, in the month of June. This small portion, which was necessarily postponed by a delay on the part of the contractor to furnish the iron, has been resumed and will shortly be finished. When this is done, it may be confidently stated, that the entire road from New Haven to Springfield, both for permanence of construction as well as its capacity for a high rate of speed, will rank with any other in the country. The sum of $286,946 37 has been expended to the 1st of September, in the reconstruction of the track; to this am't is to be credited the sum of $25,257 42, the proceeds of the sales of the old rails. When the accounts are completed the cost will be found not to have exceeded the estimate.

The steamboat line in which this company are interested as proprietors, formerly received $8,000 per annum for mail service. At the expiration of their contract, about two years since, they offered to continue the service on the same terms; the postoffice department however saw fit to reject this offer. Altho' they have, during a part of the time, performed an additional service, in the transportation of the daily mail between New York and Boston, their compensation has been cut down to the diminished rate of less than six thousand dollars a year. Dissatisfied with the unreasonableness of this reduction, the steamboat line recently notified the department, that if the former and usual rate of compensation was not allowed they should decline the service. The department persisted in its refusal, and placed an opposition boat on the line, to carry the mails. It is obvious that the dictates of prudence and a due regard for their own welfare forbade this company to sustain in any way an interest got up and acting in direct hostility to their own.—They could not be expected to co-operate with the department in destroying their own business. As a measure of self defense, they have therefore determined not to carry the mails to or in connection with the opposition line, established by the postmaster general, and a notice was accordingly given to that effect.

Since the last annual meeting, the stock of the New York and New Haven railroad company has been filled up. The construction of the road is now in active progress, and will doubtless be completed during the ensuing year. The completion of this road will supply the last link of the great chain of railroads between New York and Boston. The line thus completed will form, without any question, by far the safest, as well as the most regular and rapid route between those two cities. It will be in a position to command a large portion of the through travel, and as a necessary consequence it cannot fail to bring a large accession of travel to this road.

While a considerable increase of business may be expected at its southern extremity, the prospects of this road are still more encouraging in the opposite direction. The extensions of the great line of railroad in progress and projected, throughout the entire valley of the Connecticut, towards the north, are calculated to be greatly beneficial to the interests of this company. The line of railroad extending from New York, through the Connecticut river valley, to Montreal, will be 488 miles in length. Of this line, 99 miles from New Haven to Greenfield are now in operation. Within a year from this time, 205 miles more of this route (including forty five miles in Canada,) will be completed. Of the remaining distance, 144 miles are provided for, and will probably be completed within two years from this time,—leaving only the distance of forty miles between Bellows Falls and Greenfield, for which hitherto no provi-

sion has been made. To meet this deficiency and supply the last link in this great chain of railroads, efforts are now making which it is hoped will be successful. It is an object which cannot be too strongly commended to the attention and favorable consideration of all who are interested in this road. The completion of such a route, traversing, at it does, one of the most opulent, fertile and populous districts in the whole country, cannot fail to affect in the most favorable manner, the future business and revenues of this company, both from the central position which this road will hold upon the extended line, and also from its control of two distinct points of connection with tide water navigation, the one upon Connecticut river, the other on Long Island Sound. The board have declared a dividend of four per cent., payable October 1st. The dividends of April 1st and October 1st, 1847, are made from the earnings of eleven months, ending August 31st, as follows:

Receipts for eleven months		$290,662 08
Deduct expenses and interest		152,313 64
Net income		137,348 44
Dividend April 1st		55,300 00
		82,048 44
Dividend payable October 1st		75,200 00
Balance		$6,848 44

All of which is respectfully submitted,
By order of the Board,
C. F. POND, *President.*

SECRETARY'S REPORT.

To the Directors of the Hartford and New Haven Railroad Company.

GENTLEMEN:—The following summary exhibits the business on the books of the company the past year;

Cash on hand 1st September, 1846		$26,662 60
Freights	$90,681 32	
Passages	177,133 00	
Rents, storage, steamboats, expresses, p. o. department, and all other sources	56,910 96	
		324,725 28
Sale of six bonds		6,000 00
" 3000 shares stock		282,000 00
Cash borrowed for branch company		58,051 36
Sale of steamboat Kosciusko, in part		2,500 00
Debts collected		12,827 65
Sale of old railroad iron		25,257 42
		$728,024 31
Paid.—Interest		$36,821 87
Dividends		111,060 50
Land, buildings, and machinery		2,713 10
Cars and locomotives		30,538 30
Repairs of old road		7,822 20
Repairs of extension road		3,968 55
*Materials and labor on locomotives and cars		20,883 82
*Wood, coal, and oil		28,933 46
Salaries and labor		36,495 91
General expenses		10,331 90
Rebuilding bridges, old road		3,700 00
" Connecticut river bridge		19,292 53
Reconstruction of track with T rail		286,946 37
Branch company		48,948 00
Extension road, (for land, and freight depot, at Springfield, etc)		11,351 89
Old debts		519 20
Steamboat J. Cooley & Co		252 07
Depot repairs and improvements		1,617 20
Cash on hand	$60,171 72	
Cash in Union bank, N. Y.	5,152 72	
		65,324 44
		$728,024 31

*Including stock on hand.

Balances due the company on account	8,473 60

The expenses of operating the road the past year are,

For repairs of old road	$8,386 74
" repairs of extension road	3,968 55
" materials and labor on locomotives and cars	18,704 55
For wood, coal, and oil	27,929 21
" salaries and labor	36,495 91
" rebuilding bridges, old road	3,700 00
" rebuilding Conn. river bridge	19,292 53
" general expenses	10,331 90
" depot repairs and improvements	1,617 20
	$130,426 59
For interest paid on bonds, etc	36,824 87
	$167,251 46

There has been expended on the extension road,

For road and roadway	729,987 89
Depot buildings	28,366 90
Real estate, not necessary for railroad purposes	32,805 75
In hands of agents, to pay for land	2,238 40
	$793,359 03

18,800 shares of stock have been issued, of which 3000 shares were sold the past year, and issued the 15th of May.

547 bonds of $1000 each, have been issued.

HORATIO FITCH, *Secretary.*

HARTFORD, September 13th, 1847.

DIRECTORS CHOSEN FIFTEENTH SEPTEMBER, 1847.

The following named gentlemen were elected directors and officers—

Charles F. Pond, David Watkinson, Hartford, Conn.; Elisha Peck, Cornelius Vanderbilt, New York City; William Dwight, Chester W. Chapin, Springfield, Mass.; Ezra C. Read, New Haven, Conn.; F. R. Griffin, Guilford, Conn.; James S. Brooks, Meriden, Conn.

OFFICERS ELECTED FOR THE ENSUING YEAR.

Charles F. Pond, *President.*
Horatio Fitch, *Secretary.*
James H. Wells, *Treasurer.*

Parliament and the Railway Companies.

House of Commons (Last Night.)

The Chancellor of the Exchequer rose, pursuant to notice, to move for leave to bring in a Bill to extend the time for the purchase of the land and completion of the works upon railways. If the debate upon the first night of the Session had taken the course which he expected it would, it would have been his duty then to have stated to the House the reasons which had induced the Government to pursue the course they had done, and also the views they had formed of the causes of the present commercial pressure. Among those causes he should have included as one, the great absorption of capital by the demand of Railway Companies. He did not mean to say that that was the sole or principal cause of the pressure which had recently existed. He thought that it was a great mistake to attribute any great result to one single cause, and all that he asked of honorable members, who might entertain opinions different to his own, was that, for this night they should only admit that the absorption of capital by railways had been one of the causes which had led to the production of the present state of commercial embarrassment. (Hear, hear.) It would have been more satisfactory to him had he been able to state to the House the whole case at once; but as it was necessary that no time should be lost in bringing forward this measure, it was not a matter of choice, but of necessity, that he should undertake this portion of the case at once. One of the many points which had frequently pressed upon him, was the inconvenience which commerce had sustained by the absorption of the floating capital of the country. (Hear, hear.) The floating capital of a country is that which is employed in carrying on the ordinary operation of agriculture and commerce, and in their further developement; in the erection of buildings which were required from one end of the country to the other; and also in the construction of permanent works, including docks and railways, which ultimately contributed to the welfare and improvement of the country. If that floating capital were too rapidly converted into fixed capital, a pressure must of necessity arise upon the commerce of the country. Floating capital was employed in reproductive works, whereas fixed capital sunk in permanent works, however useful they might ultimately be, would only produce for a considerable time an annual dividend or division of profits. The case could be easily illustrated. Suppose, for instance, the case of a farmer conducting a large farm, and employing a certain amount of capital for the purposes of his farm, he might employ the surplus of his capital in useful works, such as draining and fencing; but if he abstracted any portion of the capital necessary for carrying on the ordinary duties of the farm for the purpose of those improvements, however valuable they might ultimately prove to his farm, still the ordinary operations of his farm would, no doubt, be crippled. The same illustration would apply with equal force to the case of the manufacturer. Now, what was applicable to an individual farmer or commercial man was applicable to the whole community; and there could be no doubt that the whole country had latterly been pushed for money, in consequence of the immense amount of railway speculations that had been going on. Railway Companies had been borrowing money, the commercial world had been borrowing money, and the result of all this competition of borrowers was to make money more difficult to be got at. He did not know that he could better state that part of the case than by using the words of the *Economist* of last Saturday, wherein it was stated that large supplies of capital, which hitherto had been applicable to commercial purposes, had latterly been absorbed in railways; and the consequence was, they had not the large sums at their disposal now that they had formerly, nor had the bill-brokers the means at their command to make advances upon dock warrants, or good paper of any sort. Now, he believed that to be a true statement of the case, and, from all the sources of information open to him, he had collected the same conclusive facts. Having accurately stated the course which events had hitherto taken, he would now put the House in possession of the various documents he had been able to collect which in any way bore upon this subject. He would premise, however, that the subject was so complicated that it was utterly impossible to obtain strictly accurate

information. He thought, however, that the accounts he was about to read to them would approximate to the truth as near as accounts possibly could; and, although they might not be correct within a million or two, they would afford them a tolerable good idea of the amount of speculations that of late years had been going on in railways. Now, so far back as 1826, no less a sum than two millions and a half was authorised to be raised for the purpose of investment in railways. In the period extending from 1826 to 1835, Parliament authorised £19,000,000 to be raised. In 1836 and 1837, which were years of great commercial prosperity, Parliament authorised thirty-six millions and upwards to be raised. In 1844 and 1845, the sum authorised to be raised for the purpose of railways was seventy four millions. In 1846, Parliament authorised no less a sum than one hundred and thirty-two millions to be raised for the purposes of railways; but in the present year of 1847, the amount authorised to be raised for the purposes of railway was only thirty eight millions. From a calculation made by Mr. Porter, it appeared that there remained to be raised, after the end of 1845, £145,000,000, to which must be added the £38,000,000 empowered to be raised last year. From a calculation made by the Railway Board, which he should presently show to be based upon facts, it appeared that the capital authorised by Parliament to be raised—

In 1840 was	£4,000,000
In 1841 was	3,500,000
In 1842 was	6,000,000
In 1843 was	4,000,000
In 1844 was	18,000,000
In 1845 was	69,000,000
In 1846 was	124,000,000
In 1847 was	38,000,000

Here were the sums authorised in these years to be expended upon land and the construction of works in the years mentioned—each year a greater amount being authorised than in its predecessor. The noble lord opposite (Lord G. Bentinck) had stated (as we understood) that the average expenditure during the last two or three years had not amounted to more than £12,500,000. Now this was contrary to the fact. Now, another statement, showing the expenditure as nearly as could be ascertained, proved that the expenditure of Railway Companies had borne heavily lately, and for a considerable time past, upon the resources of the country, but latterly that expenditure had borne upon the country with great and increased severity. The expenditure, from the calculation of the Board, was estimated as follows:—

In 1841	£1,407,000
In 1842	2,980,000
In 1843	4,435,000
In 1844	6,100,000

and in the first half of 1845, £3,500,000; in the second half, £10,600,000; making £14,100,000 for the year. The expenditure for the first half of 1846, was £9 800,000, and during the last half, £26,685,000; or for the whole year, £36,485,000; and for the first half of 1847, £25,700,000. This might be tested by reference to facts. So much, then, for the statement of the noble lord. For the last eighteen months, from January, 1846, until the beginning of the autumn, the expenditure could not be estimated at less than £62,000,000. The half yearly statements of the Commissioners tallied with this calculation, with the exception of a few hundred thousands. The expenditure of late years had gone on increasing in an extraordinary manner, and that caused the Railway Companies to press upon available capital, and had in some measure led to the commercial pressure. In 1845, the expenditure on railways was £14,000,000, in 1846 it was £33,000,000, and the expenditure in 1847, if things had been allowed to have gone on the same way, would have probably amounted to £64,000; in 1848, to £70,000,000; in 1849, to £90,000,000; and in 1850, to £110,000,000. Now, it was sufficient for his purpose to show that the extraordinary outlay in railways having had a considerable effect in the depression of commerce, the representations that had been made to him and the Government would have sanctioned a much stronger course than the Government now proposed to pursue. They were even called upon to put a stop to the proceedings on railways, but the Government did not think it advisable to adopt such a course. The measure he was about to propose was not one of a compulsory nature, it being thought by the Government to be extremely injudicious to adopt such a course. The object of the bill he was about to introduce was, to give to Railway Companies an extension of time for the purchase of land for the completion of their works. He proposed, with respect to railways that were being constructed, to relieve them from the obligation of buying the land, and completing the works in the time prescribed. The only persons injured would be the landowners, and he proposed to give them compesation.

Mr. Hudson—How are the damages to be ascertained?

The Chancellor of the Exchequer said the damages would be assessed in precisely the same way as damages with respect to land was ascertained. With regard to railways in which the works were not commenced, he thought that a stronger course might be adopted with respect to them. He proposed to extend to them the time for the purchase of land; and he proposed to enact that the directors of such companies should not be empowered to commence the works, without the consent of a certain proportion of the shareholders. With regard to those bills which were introduced last session, and bills proposed to be brought forward this session, he proposed to appoint a committee, to which all those bills should be referred, in order to determine which of these bills should be proceeded with. It was obvious that there were many bills involving merely deviations, or mail extensions of lines which would not involve any large outlay of capital, which it would be desirable to pass this session. He thought that it would be very desirable that no bill involving a large outlay should be allowed to pass this session. They had all, perhaps, to take some blame to themselves for the many bills which had been allowed to pass upon former occasions. In earlier years, it would have been a very difficult task to persuade the House to endeavor to check any of these numerous railway bills. A committee was appointed, in 1846, to inquire into the subject; but no suggestion had been made by that committee. After he (the Chancellor of the Exchequer) had been appointed to office, several friends waited upon him, and urged him to adopt some measure to check the progress of railway bills through Parliament. He did not at that time see how his suggestion was possibly to be carried out. Opinions upon that subject had materially changed latterly, even among railway companies themselves; and he expected that he should receive the cordial support of many of those companies to his measure. He had communicated with the chairman of several of the lines, and had found them most anxious to co-operate in checking the demand for the construction of railways, and he hoped that the course which he was about to take would receive general consent. A bill had recently passed to facilitate the dissolution of Railway Companies whose acts had not been obtained; but in cases where the bills had been passed, or the works partly commenced, the company had entered into contracts and engagements with landowners and others. He did not think, therefore, that it would be advisable to bring in any measure to allow companies so solicited to release themselves from the obligations they had entered into with numerous penalties.

Mr. Divett—What will be the extension of time?

The Chancellor of the Exchequer then proposed to allow either two or three years beyond the time limited by the acts already passed for the purchase of land or the completion of the works. With respect to the proportion of shareholders, it was immaterial to him whether the power should rest in two-thirds or three-fourths of the whole company. That was a subject which could be discussed in committee upon the bill. He would therefore move for leave to bring in a bill for the extension of time for the purchase of land and the completion of the works of those railways for which acts had obtained the sanction of the legislature, and also for the prohibition, for a limited time, upon the directors of those railways, whose works were not commenced from commencing the same, until the consent of a given number of shareholders had been previously obtained.

Colonel Sibthorp condemned railways altogether, and wished there was not one of them in the country.

Mr. Edward Ellice pointed out the evils of giving such large powers of borrowing to railway companies as had hitherto been done.

Mr. Hudson, for the companies over which he presided, denied that they had approached the limits of their powers of borrowing money. He also emphatically denied that railway expenditure had caused the commercial distress. He would not object to the proposed measures, which he thought, might perhaps appease the public feeling, if they did nothing more.

Leave was given to bring in the Bill, and the committee was also agreed to.

Galvanic Railway Signals.

We learn from Herapath's Journal, of 13th Nov., that experiments have been successfully made with a galvanic apparatus for railway signals. The description is as follows, viz:

NEW MODE OF COMMUNICATING BETWEEN GUARDS AND DRIVERS OF RAILWAY TRAINS. On Monday morning, experiments were made on the Brighton and Chichester Branch Railway of an invention by Messrs. Brett and Little, of Furnival's-inn, mentioned in our last, for giving the means of communication between railway guards and drivers. Messrs. Brett and Little having offered the invention to the London, Brighton, and South Coast Railway, every facility was immediately afforded to them for a trial of its merits by Mr. Kirtley, the superintendent of locomotives; and, some minor experiments having been made daily during the past week, on Monday the experiment was applied to a whole train. The whistle affords a ready means by which the driver can attract the attention of the guards; but, as that belongs exclusively to the driver, it was not considered advisable to interfere with it, and Mr. Kirtley thought the new-invented alarum of Brett and Little, which is quite distinct, far better than a suggestion he had heard of liberating the whistle. What has long been a *desideratum* has been a means by which guards can communicate with the drivers; and various schemes have been adopted on different lines of railway, but all unsuccessfully. In order to supply this defect, Messrs. Brett and Little propose the following plan:—On the engine, and close to the driver, is placed an alarm bell of a peculiar but simple construction, not liable to get out of order, or to be effected by the oscillation of a train, and requiring to be wound up as a clock only about once a week for ordinary use. When not required for signals, the alarm is prevented from acting by a detent or tail-piece. Contiguous to this is a permanent magnet of the same construction as that used in their electric telegraph, connected with the inventors' patent hydraulic battery, which is placed at the opposite end of the tender. Wires are passed from the alarm to the battery, and thence continued throughout the train by what are called the "safety chains" hanging loose, and coming into action only in the event of a derangement of the "couplers." From chain to chain of each carriage is placed a galvanized wire running beneath the carriage longitudinally, so that the simple operation of hooking the usual safety chains forms a galvanic circuit with as many carriages as are furnished with the connecting wires. At every guard box a pair of branch wires is carried up at the end of the carriage into the box, where, by the simple operation of moving a small handle, the galvanic circuit is completed, the magnet immediately acts on the detent, so as to liberate a disc, and the alarm is set in motion close to the driver. Pairs of branch wires can likewise be carried into every carriage of the train, if thought desirable, and thus a means is afforded to the passengers, as well as the guards, of appriaing the driver of danger. In the experiment on Monday morning, the safety-chains were in their usual condition, and it was consequently anticipated that some failures might have occurred, from oxidation rendering the contact of the links, and consequently the galvanic circuit, incomplete. Such, however, was not the case. In every instance the signal was made without a single failure. To avoid, however, the possibility of a failure from this cause, the oxidation of chains long out of use, it is proposed by the inventors that the chains should be galvanized—a very simple and inexpensive process. The driver was directed to indicate that he had heard the bell by blowing his whistle. We were informed it was most successful; indeed, nothing further appears required; it is simple, certain and perfect. Mr. Fountain, who came up with the train expressly, rode on the tender through the Balcomb tunnel, and instructed the guard to sound the alarm which never failed, and was perfectly audible from every part of the tender. There were a great many, curious in these matters, anxious to get a sight of the arrangement on the arrival of the train.

Improvements in Casting Cylindrical Pipes.

Mr. D. Y. Stewart, of Montrose, has taken out a patent for a new mode of casting iron, water, or gas pipes, or other cylindrical tubes; by which a far more superior material is produced, at much less cost than by the usual method. The mould consists of a perpendicular cylindrical iron box, of the required size, with a shaft in the centre, longer than the mould, and communicating with machinery above, by which it is kept revolving, and as it revolves, it gradually rises. At the bottom of this shaft is an instrument, which may be termed a "presser," or "rammer," consisting of an iron block, having inclined tabular faces, of such smaller diameter than the box, as to leave the sand of the required thiakness for the mould. On feeding the sand at the top of the box, it is distributed towards the sides, and the shaft and rammer, gradually revolving and rising, press it with great force against the side of the box, leaving the mould finished and perfectly cylindrical on its arriving at the top, ready for the insertion of the core. The amount of pressure against the sand is regulated by means of a counterpoise weight.

The following are the advantages claimed by the patentee;—"1. A perfectly straight cylindrical pipe, of uniform thickness. 2. No parting or joint of any kind. 3. Dressed at one half the ordinary cost. 4. Less sand used than in any other way, and, of course, easier dried, if required. 5. The castings and sand easier removed from the boxes than in the ordinary way. 6. The flasks, or boxes, better calculated to resist the pressure of the metal than any now in use. 7. This method is the best for casting pipes perpendicularly that has hitherto been employed. 8. The greatest recommendation of all is, the simplicity of the apparatus, which requires the attendance of a boy only, who with my machine, as at present working, turns out easily six pipes, six inches bore, per hour." We understand that two miles of water-pipes have been laid by the patentee at Montrose, and the Town-Council passed him a vote of thanks. Some capitalists have joined the patentee, forming a company, and ground has been secured in Glasgow, where premises will be erected for carrying on the business on a large scale.—*Lond. Min. Jour.*

Specification of a Patent granted to PATRICK MOIR CRANE, *of Ynisceduyn Iron Works, near Swansea, Iron Master, for Improvements in the Manufacture of Iron.*—[Sealed, April 8th, 1847.]

This invention relates to an improvement in that part of the manufacture of malleable iron where what is called refinery iron is produced, by melting pig-iron in a refinery furnace; and it consists in a mode of employing anthracite or stone coal in the process of making refinery iron. The patentee says he is aware that this has been before attempted, but without success, on account of the peculiar character of the anthracite or stone-coal, which is liable to decrepitate and fly off into dust on sudden exposure to heat; now, the present invention consists in subjecting the anthracite or stone-coal to heat, before introducing it into the refinery furnace. The preparatory heating may be effected in any convenient way; and the coal may be used either in an ignited or highly-heated state, or in a cold state (having been first ignited or highly-heated). After such preparation, the coal will bear either the hot or cold blast; and whichever blast be used, the patentee prefers that it should be introduced through two or more small tuyeres, instead of one large one. The refining process is conducted in the same manner as when coke or charcoal is used. In the manufacture of pig-iron by the aid of anthracite coal in the blast furnace, a considerable quantity of highly-heated anthracite coal comes from the furnace in lumps, in that process commonly termed by the workmen "throwing off," and the patentee either introduces these lumps in a heated state into the refinery furnace, or he preserves them for future use. Or, instead of employing these lumps, the patentee causes the raw anthracite coal to be ignited in masses in pits, kilns, or ovens, and, when thoroughly ignited and heated, he carries it direct to the refinery furnace, or preserves it for future use. Although the patentee has used the anthracite coal alone, other fuel may be employed therewith.

The advantages said to result from the use of anthracite coal, according to this invention, are—that a considerable saving is effected in comparison with the coke of bituminous coal—The cinder contains less iron than that from a refinery furnace worked with the coke of bituminious coal—and in those districts where anthracite or stone-coal can alone be obtained, manufacturers of iron will now be able to refine their iron, which has not hitherto been the case.

The patentee claims, as his invention, "applying, in the manufacture of refinery iron, anthracite or stone-coal, which has been ignited or raised to a high temperature, before introducing it into the refinery furnace."—*Enrolled October*, 1847.—*Lond. Journ. Arts and Sciences.*

Galloway's Rotary Steam Engine.

On Saturday last, we were invited to inspect a rotary engine, invented by Mr. Elijah Galloway, which is now employed to drive the blower of Mr. Tyrrell's furnace, at Deptford. The chief object of the inventor was to obtain a direct rotary motion, the dead point being overcome by the peculiar construction of the engine, which is of 4 horse-power. The size of the engine, independent of the shaft and boiler, is about 18 inches diameter, and 9 inches in thickness. It consists of a kind of cylinder, containing five chambers, which are large segments of circles, perfectly separate and independent of one another, but constructed out of the same piece of iron. The ends of the chambers extend, in the interior of the cylinder, to about one-fourth of the diameter. Into this cylinder a moveable frame is introduced, having five arms, which act in the five chambers as pistons in cylinders. The arms are curved in such a manner, that, in moving through the chambers, the points of contact with the sides of the chambers keep them steam tight. Each arm moves in a corresponding chamber, out of which they do not go; by the motion of the arm, from one side of the chamber to the other, a rotary motion is given to the centre of the moving frame, with which the crank end of the main shaft of the engine is connected, and from which it derives its rotary motion. The depth of the chambers is about 4½ inches. They are covered by a plate, at the other side of which the steam-chest is situated. The steam is admitted alternately to the chambers through holes in the plate, in order to propel the arms of the moving frame. The steam enters and passes off from each chamber independently, as if they were so many separate cylinders. It is intended to work this description of engine by means of high-pressure steam. It was stated by the Hon. Captain Fitzmaurice, that the engine had been employed in the Engineer's shop of the Great Western Railway company, as an experiment, during the repair of the company's own engine, and after working there for a fortnight, it was taken to pieces and examined; that there was no perceptible wear on the engine, but on the contrary, that the interior had become case-hardened from use. The engine was stated to be perfectly steam-tight, and its motion and power perfectly uniform at all velocities; that the number of revolutions made in a given time do not perceptibly effect the power; that in the consumption of fuel, it was economical, as compared with the reciprocating engine; that this rotary engine could make 400 revolutions in the time the reciprocating engine could make 200 revolutions, with the same expenditure of fuel. As at present constructed, the steam works to the full in each chamber. We suggest whether some contrivance may not be made so as to cut it off at a certain stage of the stroke to work expansively, and, consequently even more economically. We were informed that a larger engine is to be constructed on the same principle, with a boiler proportionate to its size, when the advantages of the invention will be fully tested. We understand that the authorities in the navy department entertain so favorable an opinion of the invention, that they have applied to the patentees for an estimate of the cost of fitting the Minx, of 300 tons burden, with an engine of 50-horse power, to work a screw-propeller, for which the rotary engine is peculiarly adapted. A space of 3 feet by 2 is estimated to be sufficient for the new engine of 50-horse power, which is computed to give 300 revolutions per minute. It is expected, that the introduction of a rotary engine in this case will effect a saving of 50 tons, as compared with an engine of equal power constructed in the usual manner, not taking into account the saving of space and fuel. If this ingenious invention should prove successful on the larger scale, its adoption will be a great advantage to our steam navy, by reducing much of the dead weight of machinery, and render war-steamers much more efficient for the service, occupying considerably less than the usual space, and placing the machinery entirely out of the range of shot. Its advantages as an auxiliary power to propel merchant vessels may also prove important.

Manufacture of Alkali and Chlorine.

Mr. C. T. Dunlop, of Glasgow, has recently obtained a patent for some "improvements in the manufacture of alkali and chlorine, and in the application of the product resulting therefrom;" the first part of which consists in an improved method of producing chlorine, fit for manufacturing purposes, by the mutual decomposition of the following substances:—

Muriate of soda, or any other muriate—nitrate of soda, or any other nitrate—muriatic acid—nitric acid. In some instances it is also requisite to use sulphuric acid; and the patentee generally prefers to employ it, in order to obtain, as a residual product, sulphate of soda, suitable for the manufacture of soda, etc.

All the above materials may be employed together, or only two of them; as, for instance, a nitrate with a muriate (in which case sulphuric acid must also be used), or a muriate with nitric acid, or a nitrate with muriatic acid, or muriatic acid with nitric acid; in the latter cases, sulphuric acid is employed, according to the results desired to be obtained. The patentee says—he does not confine himself to any proportions, but the process he usually adopts is, to bring together common salt, nitrate of soda or nitric acid, and sulphuric acid, in suitable proportions; heat being then applied, chlorine, or oxide of azote, and muriatic acid, are evolved; these gases are caused to pass through a condenser, charged with sulphuric acid, of sufficient strength to absorb the oxide of azote; and then the chlorine and muriatic acid are separated by means of water.

The second part of the invention relates to the application of the product resulting from the above process, and consists in the production of nitric acid from the sulphuric acid, charged with oxide of azote, which is true nitrous sulphuric acid. This is effected by the aid of atmospheric air, steam, and water; and the process adopted by the patentee is, to introduce the nitrous sulphuric acid into a suitable vessel, and, by the addition of water and heat, to effect the disengagement of the oxide of azote, which, being caused to traverse a condenser, together with a sufficient quantity of air and steam, or water, is by this means transformed into nitric acid; this acid may be again used in the manufacture of chlorine, and again recovered, and so on. Sometimes, in place of treating the nitrous sulphuric acid, as just described, the patentee causes the oxide of azote to be evolved, and to pass into a chamber, into which a current of sulphuretted hydrogen is streaming; by which means sulphate of ammonia is obtained and sulphur deposited. The patentee claims the manufacture of chlorine from the materials above mentioned, in the manner described; the process employed for separating the gaseous products, so as to obtain the chlorine in a sufficiently pure state for manufacturing purposes; and the two processes described for utilizing the products resulting from the manufacture of chlorine—*Ibid.*

Suspension Bridge.—New Plan for Railways

The Railway Record, for 6th November, gives the following description of Mr. Cowper's plan for building suspension railway bridges. The editor says: "At the last meeting of the Institution of Mechanical Engineers, held at Birmingham, the following paper, by Mr. A. E. Cowper, of the London Works, was read, and deemed highly important and deserving of further consideration."

"*Description of an Improved Suspension Bridge for carrying a Railway and for other purposes.*—In bringing before the Institution of Mechanical Engineers a paper on a peculiar form of bridge, I ought perhaps to apologise for introducing matter which may by some of our friends be thought to belong more strictly to our civil brethren: but possibly before the conclusion of the paper, I shall have anticipated any objection which might have been made on that score by showing, in point of fact, that I have only been explaning a piece of boiler maker's work, and which may certainly be considered to be far enough removed from civil engineering. The object of the present paper is to call the attention of engineers and railway directors generally to a mode which I have invented of constructing suspension bridges in such a way that they shall not be thrown out of shape, or in any way distorted, by the weight of a passing load, whether it consists of a railway train or only of the ordinary traffic of a common road.

"It is well known that suspension bridges are decidely less costly than any stone bridges, and we may add than most iron bridges, when the span is at all above the length of an ordinary girder; and although many persons have turned their attention to them, particularly with regard to their use on railways, I am not aware that any suspension bridge has ever been made, or proposed, that was at all competent to carry the weight of a railway train in motion, or, in other words, that should be safe as a railway bridge. My attention was particularly called to suspension

bridges by the proposal of carrying a railway over the Hungerford bridge, or over a bridge placed along side of it; and it appeared to me that the weight of a passing train would so move and distort the chains as to cause the road very soon to get out of order, if not actually give way; and I then schemed the plan of making a chain of such depth as to include any alteration in the curve of the strain that might take place. The curve which the chains of an ordinary suspension bridge takes is well known to be a catenary, or rather a curve between a catenary and a parabola; it would be a true parabola if all the weight were in the platform, and a true catenary if all the weight were in the chain. As, however, the difference between the catenary and the parabola is very slight indeed in that portion which would be used for a bridge, we may assume it to be a catenary for all practical purposes.

"Now, on loading an ordinary suspension bridge with even a small weight, it at once assumes a different curve (unless the weight be equally distributed over the bridge,) and if the weight be large, it will assume a very different curve; so much, indeed, will the form be altered as to injure or strain the material of which the platform or road is composed. Now, it is evident that, if the road has to distribute the weight, it must be a very strong and stiff beam, or, in fact, a girder of the full length of the bridge; and the strength of this girder would very nearly be equal to carrying a quarter of the weight of the load in the centre; it is therefore evident that the plan of forming a stiff platform or road for a railway suspension bridge, although by no means impossible, must be at least half abandoning the suspension principle, and be the cause of greater outlay.

"The plan of keeping the road in shape, by distributing any weight that might come upon it, by means of strong diagonal ties, was the first idea that I had; but it will be found by calculation that these diagonals would have to be very strong, and of considerable height, thereby causing the total depth of the bridge to be much greater. But the plan on which I propose to construct suspension bridges capable of carrying railway trains without being in any way injured thereby, is simply to construct the chain of such depth as to include the curve of strain when the weight is placed on the bridge in the most unfavorable positions. With this object I construct the chains of boiler plate of considerable depth--say three or four feet or more--and rivet the whole together without any moveable joints, or separate links, and at the top or bottom edges of the chains (I still call them chains, that I may be clearly understood) I rivet or otherwise attach bars, either flat, half round or angle iron, so as to give an accumulation of metal at those parts, and at the same time to render the edges of the chains perfectly secure against any tendency to rip or tear. In the drawing you will observe that there are two chains, each four feet deep, which support the ends of cross wrought iron girders, in the position of sleepers, each chain being composed of four boiler plates, rivetted together in pairs, each plate being three-eighths inch thick, and at the top and bottom edges there are securely rivetted strong angle irons. The suspension bars hang between the two pairs of plates forming the chain, and are supported by a small saddle, which bears on the top edges of them. The ends of the cross wrought iron girders are firmly secured to a light rib of boiler plate, which runs along each side of the bridge, as shown in the cross section of the bridge; the lower ends of the suspension bars are secured to the ends of the girders, with means of adjustment, so that the road may be trimmed perfectly level when the bridge is fixed. There are also light diagonal ties introduced, for the purpose of more perfectly staying the road to the chains, particularly in case of the breaks being applied while the train is passing over the bridge.—The rails, either of the ordinary form placed in chairs, or of that form commonly called the bridge rail, are supported on balks of timber scarphed together, which run longitudinally throughout the bridge, and these are supported by short balks of timber running from girder to girder, immediately under the first. There are a series of diagonal ties placed in the platform, as shown in plan in the drawing. These act as a means of stiffening the platform, and preventing any vibration or shaking of the parts. The long red lines indicate stay rods, by which the bridge is prevented from moving or swinging sidewise. They are attached to the piers, and are very similar to some used by Mr. Brunel, senior, in a bridge at the Isle of Bourbon. The drawing before you is of a bridge 200 feet span, having the cross girders eight feet from centre, and the chains four feet deep, which depth has been arrived at by actual experiment; the weight of the road from one of the rails and the train is one ton per ft. run, and the weight of a train of locomotives I have assumed at one ton per foot run, and this is allowing some margin for the continued growth of locomotives; and I have taken as a proof load, two tons per foot run—thus the weight of the load, or disturbing cause, will be just double the weight of the bridge.

I find the greatest distortion of the curve strain takes place when the bridge is only half loaded, i.e., from one end to the centre; the curve then approaches the bottom of the chain, very nearly in the centre of the loaded half, and approaches the top of the chain in the centre of the unloaded half, while at the piers it approaches the top at the loaded end and the bottom at the unloaded end. Again, if the same load be placed in the centre of the bridge (covering one-half of the length), the curve of strain will approach the bottom of the chain in the centre, and will approach the top of the chain at very nearly one-fifth from each pier, while at the piers it will be near the centre of the chain, but rather above it. Take one more case, and we shall have disposed of all the heavy disturbing tendencies—viz: that of the ends loaded, and the centre left unloaded; the curve of strain will then approach the top of the chain in the centre, and the bottom of the chain at about one sixth from each pier, while at the piers the strain will be slightly above the centre. I may add, that, when the bridge is fully loaded throughout, the curve of strain is in the centre of the chain, throughout its length. I propose to call bridges made on this plan, 'inverted arch bridges.'"

A brief conversational discussion followed the reading of this paper, in the course of which Mr. Stevenson and others stated that if the invention could partially carry out the intentions of Mr. Cowper, it effected a most important desideratum in railway engineering.

Silver Ores.--Mode of Separating.

The following is a discription of Mr. Richard Phillips' mode of separating silver from its ore, and Mr. Widder's remarks upon it—both of which may be interesting to some of our readers.

Process for separating Silver from its Ores, without the use of Murcury. By Richard Phillips, F. R. S.

Reduce the ore to the state of fine powder, and then mix the following proportions of it and the undermentioned substances:

100 lbs. of the fine powdered ore;
10 lbs. of common salt;
10 lbs. of finely powdered sulphuret of iron, frequently called pyrites, or martial pyrites, and sometimes *persulphuret* or bisulphuret of iron; and instead of this, if more convenient,
12 lbs. of sulphate of iron, or copperas dried until it has become white—this substance is also frequently called green vitriol, or green copperas. It is to be understood that the weight mentioned is of the copperas after, not before drying.

Let this mixture be calcined in a strong heat, in a reverberatory furnace, until all vapors have nearly ceased to rise.

In this operation, the sulphur of the sulphuret of iron becomes sulphuric, and, this decomposing the common salt, its chlorine combines with the silver, and converts it into chloride of silver, frequently called muriate of silver, or horn silver; and this is the state in which it is required to be brought forth—process to be presently described. If the ore be naturally in this state—that is, horn silver—this preparatory process is needless; and the ore, reduced to fine powder, may be at once subjected to the solvent to be described. If the ore contains a considerable portion of sulphur, combined either with iron or copper, then the pyrite or sulphate of iron may be either totally omitted or their quantity reduced. If the ore contains *native* or metallic silver, then five lbs. of nitre or saltpetre should be added to the above ingredients.

Observations on Mr. Phillips' Process of separating Silver from Ores. By Mr. Widder.

By roasting the ore with common salt and pyrites, or sulphate of iron, the muriatic acid of the common salt combines with the silver, and the soda with the sulphuric acid produced by the pyrites of sulphate of iron.

In many mining districts the process of roasting is objectionable, or even impractica-

ble, owing to the scarcity of fuel. This is one of the reasons for which the German method of amalgamation has been found so little applicable in Mexico. It is, however, well observed, by Mr. Phillips, that in the common process of amalgamation practised in Mexico, the silver contained in the ore is converted into chloride of silver, by the chemical action of common salt and of magistral —an impure sulphate of copper and iron— of the sun's heat and light, of water, and repeated stirrings, before any mercury is added. It therefore may be proper to *convert* the ore according to the usual mode of proceeding in Mexican amalgamation, until arriving at the point when the mercury would be added.

Instead of this, Mr. Phillips' process would begin by washing the lama or schlick; the lime added to the solution of muriate or sulphate of ammonia, combining with the muriatic or sulphuric acid, and sets the ammonia free.

Quere—may not the lime, if used in excess, and remaining uncombined in the solution decompose the chloride of silver?

The ammonia is seized by the sulphuric acid of the sulphate of iron, and the reduced silver, together with the oxide of iron, falls down.

Here a greater quantity of lime is added, to combine with the acid contained not only in the one pound of muriate or sulphate of ammonia now added, but also with that contained in the sulphate of ammonia produced in the first part of the process by precipitating the silver from its solution in ammonia by means of the sulphate of iron.

N. B. The solution, whenever it has received an addition of lime, and consequently disengages ammoniacal gas, ought to be exposed to the atmosphere as little as possible, so as to prevent loss by the escape of the gas.

On a New Mode of Engraving, called Stylography.

A new method of engraving has been invented by M. Schœler, a native of Demark. In 1842, M. Schœler had so far perfected his invention as to produce satisfactory results, which was submitted to the King of Denmark, who rewarded the invention on the condition of his publishing a complete description of his method. In conformity with this agreement, he has just published the particulars of the process at Copenhagen, and has also made it known at Bruxelles. The Academy of Sciences of this latter city approved of it in its sitting of the 4th of December, 1846. Mr. Buschman D'Aurey subsequently made use of it at Antwerp, and on the 18th of last May, his experiments were submitted to the Academy at Bruxelles.

One part of copal, three of stearine, and three of lac are melted together, and a sufficient quantity of Frankfort black is added to render the composition black. The whole is melted in a mould about six lines (or half an inch) in depth, formed of two sheets of copper, which are first rubbed over with an amalgam of tin, and whiting and Tripoli, blackened over the flame of a lamp. The sheet of composition is then to be taken from the mould; it will come out easily, and will harden on contact with the air. It is afterwards to be rubbed with a solution of rosin in spirits of wine, and polished; and before it is quite dry it is to be covered with silver powder, until it is like a sheet of white paper. The design is then to be counter drawn on it in red, and the whole is to be gone over with a dry point or graver, the different shades being regulated by cutting to greater or less depths, and varying the width of the lines as well as the distances between them.

The design being engraved, it is to be cleansed with water, and covered with a solution of sugar mixed with a small quantity of nitrate of silver, and bronze powder laid on with a brush.

It then only remains to apply the known processes of galvanoplastics: first, a plate is formed in relief, and from that the plate is produced which is to be printed from, in the same manner as etched or engraved plates. The principal advantage of M. Schœler's process is a saving of labor to the engraver, as he draws in black on a white ground, in the same manner as with pencil and paper.

The results hitherto obtained, although satisfactory, must be merely regarded as slight indications of what may be done by this process in the hands of skilful artists, when some apparent difficulties incident to all new industrial processes (such as lithography, for instance) shall have been made to disappear by practical experience.

If, however, M. Schœler's process does away with some disadvantages which are frequently encountered in the ordinary process of etching, and which are unfavorable to the production of good engravings, it necessitates an extra operation (that of electrotyping) which occasions a certain expenditure of time and money; but it is not unreasonable to suppose that by experience some improvement will be effected in this part of the process. It is not likely that *Stylography* will ever rival line-engraving in beauty; but it possesses over it the advantage of not requiring for its execution one-tenth part of the time: and, moreover, by this means the artist may himself engrave his design with even greater facility than it could be lithographed; which is a great advantage, when he wishes to produce a great number of copies of his work.

M. Schœler has sent thirteen specimens of his works to the Royal Academy at Bruxelles, consisting of two landscapes, three studies of heads, portraits of Frederick VI. and Beethoven, portraits of Lord Byron at several periods of his life, and five finished studies of heads, amongst which, an oriental study, about four inches high, is a very excellent specimen, as the finest and most delicate lines, produced by the point, are well brought out. Several of these specimens have the fault of too much vigor, or rather perhaps too much hardness and dryness; a very skilful hand being required to handle the point lightly, and to produce effective shadowing; but this is easily acquired by artists, as will be seen from the perfection which has been arrived at in lithography.—*Bulletin de la Societe d'Encouragement.*

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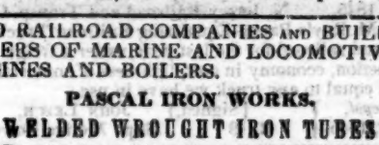

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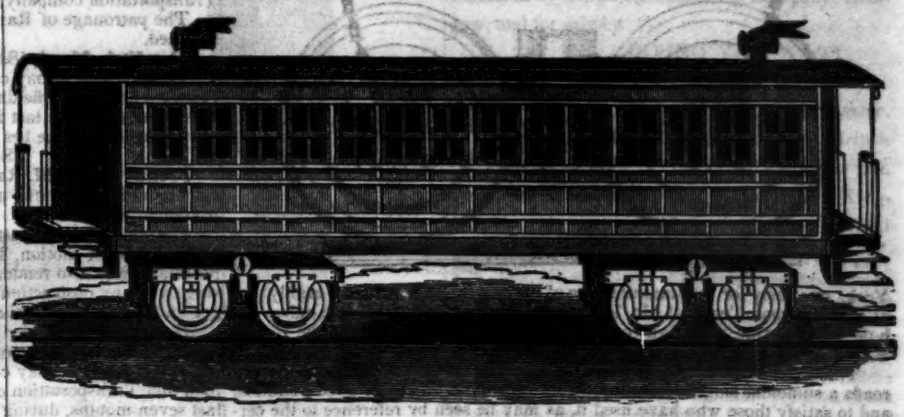

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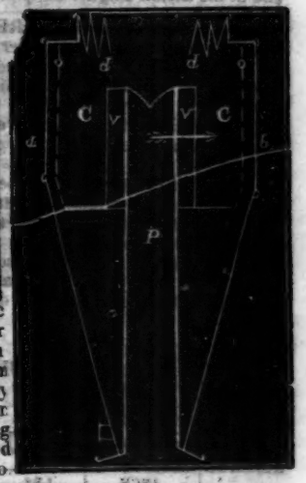

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These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendant Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendant Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburgh and Jackson Railroad, Vicksburgh, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed. FRENCH & BAIRD.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

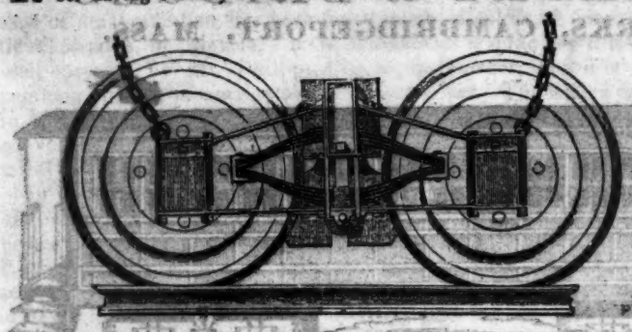
Philadelphia, Pa., April 6, 1844.

*** The letters in the figures refer to the article given in the *Journal* of June, 1844. jn45

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved *Reading Locomotive and Car Axles*—drawn to any required pattern from *Bloom Iron only.* Address
SAM'L KIMBER & CO.,
Willow Street Wharf,
1tf Philadelphia, Pa.

RAILROAD IRON.—THE "MONTOUR Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to MURDOCK, LEAVITT & CO.,
Agents.
1y48 77 Pine St., New York.

RAY'S EQALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its aurability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East river, (of which firm the subscriber was late a partner) under the immediat supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully soliciied.

New York, May 4, 1846. W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the bes and most economical truck now in use.

[Signed,] WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845. [Signed,] G. A. NICOLL, Sup.t Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use. [Signed,] T. L. SMITH,

Jersey City, November 4, 1845. N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot, Jamaica November 12, 1845. [Signed,] JOHN LEACH, Sup't Motive Power

1y19

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,
75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	
11	4¼	13	5	10	21	–	50	15-16	20
13	3¼	8	3	8½	16	–	27	11-16	13½
14	3¼	6	11	7½	12	8	17	9-16	10½
15	2½	5	2	6½	9	4	13½	1-2	7½
16	2½	4	3	6	8	8	10½	7-16	7

N.B. The working load, with a perpendicular lift, may be taken at 6 *cwt. for every lb. weight per fathom, so that a rope weighing* 5 *lbs. per fathom would safely lift* 3360 *lbs., and so on in proportion.* 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicotts' Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of **20** years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT.
Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 5th street,
1y25 Philadelphia, Pa.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee G. A. NICOLLS,
ja45 *Reading, Pa.*

TO RAILROAD COMPANIES AND MANufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. THOMAS & EDMUND GEORGE,
ja45 N. E. cor. 12th and Market sts., Philad., Pa.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-4 TO 6 INCHES DIAMETER,
and
ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

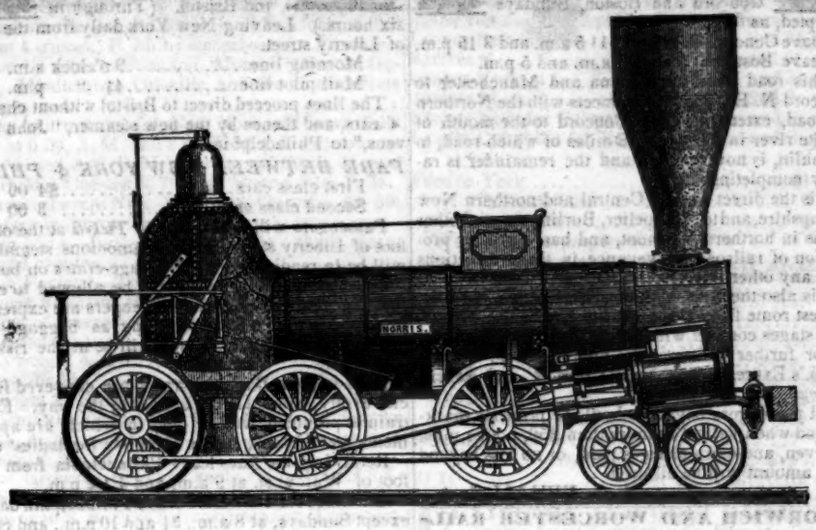
PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. JOHN F. WINSLOW, *Agent.*

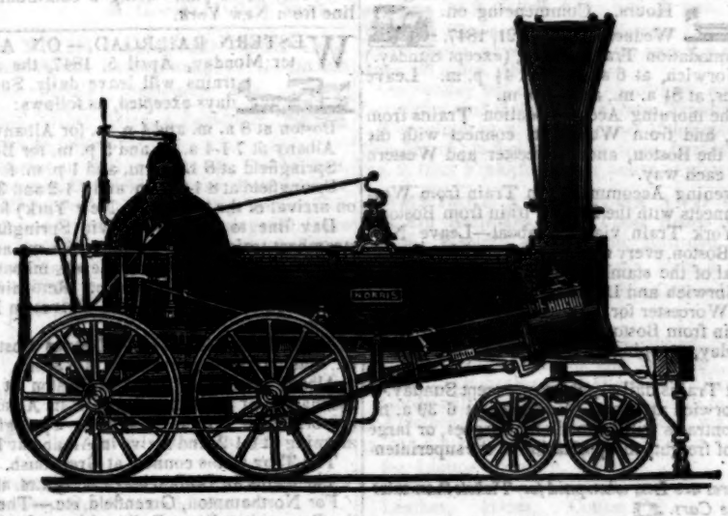
Albany Iron and Nail Works, Troy, N. Y.

The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co, Boston. ja45

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





MANUFACTURE to order Locomotive Steam Engines of every plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS & BROTHERS.

MACHINE WORKS OF ROGERS, Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed beinglarge, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

a15 Paterson, N. J., or 60 Wall street, N. York.

THE SUBSCRIber has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIbers are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,

12tf Vine St. Wharf, Philadelphia.

LAP-WELDED WROUGHT IRON TUBES for Tubular Boilers, from 1¼ to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,
12 Platt street, New York.
JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom. 28tf

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SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engagep in manufacturing Spring Steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, *Agent*,
17 Albany Iron and Nail Works.

THE SUBSCRIBERS ARE PREPARED TO execute orders at their Phœnix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.
ROBERT NICHOLS, Agent,
26tf No. 79 Water St., New York.

KEARNEY FIRE BRICK. F. W BRINLEY, Manufacturer, Perth Amboy N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms mos. from delivery of brick on board. Refer to

James P. Allaire, Peter Cooper, Murdock, Leavirt & Co. } New York.
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Con.
N. E. Screw Co. Eagle Screw Co. } Provicence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J
Gardiner, Harrison & Co. Newark, N. J

25,000 to 30,000 made weekly. 35

CHILLED RAILROAD WHEELS.—THE undersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of Spokes or Disks, by a new process which prevents all strain on the metal, such as is is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St. below 13th,
Nov. 10, 1847. [tf.] Philadelphia, Penna.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a15 President of the Newcastle Manuf. Co.

BOSTON AND MAINE RAILROAD.
Upper Route, to Portland and the East.

WINTER ARRANGEMENT,

Commencing October 4, 1847.

PORTLAND TRAINS.

Leave Boston at 7 A.M. and 2½ P.M.
Leave Portland at 7½ A.M. and 3 P.M.

GREAT FALLS TRAIN.

Leave Boston at 3½ P.M.
Leave Great Falls at 6½ A.M.

LAWRENCE TRAINS.

Leave Boston at 7, 11½ a.m., 2½, 3½, 5½ p.m.
Leave Lawrence at 7, 8½, 11 a.m., 3½, 6½ p.m.

HAVERHILL TRAINS.

Leave Boston at 11½ A.M. and 5½ P.M.
Leave Haverhill at 7 A.M. and 3½ P.M.

READING TRAINS.

Leave Boston at 8½ A.M. and 6½ P.M.
Leave Reading at 6·50 A.M. and 1½ P.M.

MEDFORD BRANCH TRAINS.

Leave Boston at 7½, a.m., 12 m., 2½, 4½, 6 p.m.
Leave Medford at 7, 8½, a.m., 1½, 3½, 5 p.m.

The Depot in Boston is on Haymarket Square.
1y31 CHAS. MINOT, *Super't.*

BOSTON AND PROVIDENCE RAILROAD. Passenger Notice. Summer Arrangement. On and after Monday, April 5, 1847, the Passenger Trains will run as follows:

Steamboat train via Stonington—Leaves Boston every day, except Sunday, at 5 o'clock p.m.

Accommodation Trains—leave Boston at 7 and 10½ a.m. and 4 p.m., and Providence at 7½ and 10½ a.m. and 4½ p.m.

Dedham trains, leave Boston at 8 a.m., 12½, 3½, 6½ and 9 p.m., Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton trains, leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7 10 a.m. and 3½ p.m.

All baggage at the risk of the owners thereof.
25tf W. RAYMOND LEE, *Sup't.*

NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 2 30, 5 and 7 p.m.

For Morrisiana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisiana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 6 28 and 8 p.m.

Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.

Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.

Tuckahoe, 7 38 and 8 25 a.m., 12 55 and 5 52 p.m.

White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.

Pleasantville, 8 15 a.m. and 5 15 p.m.

Newcastle, 8 a.m. and 5 p.m.

Mechanicsville, 7 48 a.m. and 4. 48 p.m.

Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m and City Hall 1 p.m.

Returning, leave Croton Falls 10 a.m. and 9½ p.m.

ON SUNDAYS. the trains will run as follows:

Leave City Hall for Croton Falls, 7 a.m, 4 p.m.

Croton Falls for City Hall, 7 30 a.m., 4 30 p.m.

Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will preceed each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers $1, to Mechanicsville 87½c., to Newcastle 75c., to Pleasantville 62½c. to White Plains 50c. 25tf

CONCORD RAILROAD.—PASSENGER Trains in connection with the Lowell & Nashua Railroads, run daily between Concord and Boston, Sundays excepted, as follows, viz:

Leave Concord at 5 40 and 11 5 a.m. and 3 15 p.m.

Leave Boston at 7 and 11 a.m. and 5 p.m.

This road runs by Nashua and Manchester to Concord N. H., where it connects with the Northern railroad, extending from Concord to the mouth of White river in Vermont, 18 miles of which road, to Franklin, is now opened, and the remainder is rapidly completing.

It is the direct route to Central and northern New Hampshire, and to Montpelier, Burlington, and other towns in northern Vermont, and has a greater proportion of railroad conveyance in those directions than any other line.

It is also the British Steam Mail Line, and the nearest route from Boston to the Canadas. Numerous stages connect with all parts of the road.

For further information, apply at B. P. Cheney & Co.'s Express office, No. 8 Court St., and Averill & Dean, No. 15 Elm St.

All passengers' baggage should be properly marked, and when valued at more than $50, notice must be given, and extra charges paid, or no loss beyond such amount will be allowed.
26tf N. G. UPHAM, Supt.

NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a. m., and 4½ p. m. Leave Worcester, at 8½ a. m., and 4½ p. m.

☞ The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2½ p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the stamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6½ p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a. m. Special contracts will be made for cargoes, or large quanties of freight, on application to the superintendent.

☞ *Fares are Less when paid for Tickets than when paid in the Cars.* ☜
32 1y J W. STOWELL, Sup't

LONG ISLAND RAILROAD COMPANY. Summer Arrangement. On and after Monday May 1st, trains will run as follows, except Sundays:

Leave—Brooklyn at 9 1-2 a.m. for Farmingdale, 1 1-2 p.m. for Greenport, at 4 p.m. for Farmingdale.

Leave Farmingdale at 7 a.m for Brooklyn, 12 m. do., at 3 1-4 do. do.

Leave Greenport at 8 1-2 a.m. for Brooklyn.

Leave Jamaica at 8 a.m. for Brooklyn, at 1 p.m. do., at 4½ p.m do.

On Saturdays, a train will leave Brooklyn for Yaphank, at 4 p.m. Leave Yaphank, on Mondays for Brooklyn at 5 1-2 a.m.

On and after May 15th, and until September 1st, 1847, a train will leave Jamaica at 7 a.m. for Brooklyn—leave Brooklyn at 6 p.m. for Jamaica, and will land and receive passengers at any place between Brooklyn and Jamaica.

On Sundays—leave Brooklyn at 8 1-2 a.m. for Farmingdale; leave Farmingdale at 4 p. m. for Brooklyn.

Freight Trains—leave Brooklyn at 10 a.m. for Greenport; leave Greenport at 12 m. for Brooklyn.

Baggage crates will be in readiness at the foot of Whitehall street, to receive baggage for the several trains, 30 minutes before the hour of starting from the Brooklyn side.

The steamer "Statesman," Captain Nash, leaves Greenport for Sag Harbor on the arrival of the Accommodation train from Brooklyn.
5tf DAVID S. IVES, Sup't.

NEW YORK AND PHILADELPHIA RAILroad line—direct. Via Newark, New Brunswick, Princeton, Trenton, and Bristol. (Through in six hours.) Leaving New York daily from the foot of Liberty street.

Morning line.....9 o'clock a.m.
Mail pilot line.....4½ " p.m.

The lines proceed direct to Bristol without change of cars, and thence by the new steamer, "John Stevens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....$4 00
Second class cars..... 3 00

Passengers will procure their *Tickets* at the office foot of Liberty st, where a commodious steamboat will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each passenger in this line, and passengers are expressly prohibited from taking anything as baggage but their wearing apparel, which will be at the risk of the owner.

Philadelphia Baggage-crates are conveyed from city to city, without being opened by the way. Each train is provided with a car, in which are apartments and dressing rooms expressly for ladies' use

Returning, the lines leave Philadelphia from the foot of Walnut st. at 9 a.m, and 4 1-2 p.m.

The lines for Baltimore leave Philadelphia daily except Sundays, at 8 a.m., 3½ and 10 p.m., and Sundays only at 10 p.m.—being a continuation of the line from New York. 25tf

WESTERN RAILROAD.—ON AND AFter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.

Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany

Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or on arrival of the train from New York) for Boston.

Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveller, New York, or Champion. Returning, leaves New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush.

The trains for Buffalo leave at 7½ a.m. and 7 p.m.

For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1-4 a.m., 1 and 3 p.m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

GREAT SOUTHERN MAIL LINE! VIA Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., proceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen and a half hours*, and Charleston, S. C., in *two days* from Baltimore.

Fare from Baltimore to Charleston.....$21 00
" " " Richmond..... 6 60

For Tickets, or further information, apply at the *Southern Ticket Office*, adjoining the *Washington Railroad Office*, Pratt street, Baltimore, to
1y14 STOCTON & FALLS, Agents.

NEW YORK AND ERIE RAILROAD LINE SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New-York from the foot of Duane St. at 7 o'clock, A. M. and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.

Fare between New York and Otisville, $1 50; way-fare in proportion.

For Milk—Leave Otisville at 5½ o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Suydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

21tf H. C. SEYMOUR, Sup't.

LITTLE MIAMI RAILROAD COMPANY. Fall and Winter Arrangement, 1847. On and after Monday, September 20th, until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4½ a.m. Upward train arrives at Springfield at 2½ p.m. Downward train arrives at Cincinnati at 10½ a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine. To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, is 32 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....32 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fare—From Cincinnati to Lebanon....$1 00
" " " Xenia..... 1 50
" " " Springfield.. 2 00
" " " Columbus... 4 00
" " " Sundusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every $500 in value over that amount.

47tf W. H. CLEMENT, *Sup't.*

BALTIMORE AND SUSQUEHANNA Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows:

Leaves Baltimore at	9 a.m.	and 3½ p.m.
Arrives at	9 a.m.	and 6½ p.m.
Leaves York at	5 a.m.	and 3 p.m.
Arrives at	12½ p.m.	and 8 p.m.
Leaves York for Columbia at	1½ p.m.	and 8 a.m.
Leaves Columbia for York at	8 a.m.	and 2 p.m.

FARE.

Fare to York.....$1 50
" Wrightsville..... 2 00
" Columbia..... 2 12½
Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg..... $9
Or via Lancaster by railroad..... 10
Through tickets to Harrisburg or Gettysburg.. 3
In connection with the afternoon train at 3½ o'clock, a horse car [illegible] to Green Spring and Owing's Mill, arriving at the Mills at.....5½ p.m.
Returning, leaves Owing's Mills at.....7 a.m.

D. C. H. BORDLEY, *Sup't.*
31 1y Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m. Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare $1 25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above. 351y

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CENTRAL AND MACON AND WESTern Railroads, Ga.—These Roads with the Western and Atlantic Railroad of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad	190
Macon to Atlanta—Macon and Western	101
Atlanta to Oothcaloga—Western and Atlaniic	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods	To Atlanta.	To Oothcaloga.
Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings	$0 50	$0 75
Flour, Rice, Bacon in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones	0 50	0 62½
On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot	0 20	0 26
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot	0 20 pr. 100 lbs.	35
Crockery, per cubic foot	0 15 " "	35
Molasses and Oil, per hhd., (smaller casks in proportion).	9 00	12 50
Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each	1 25	1 50
Ploughs, (small,) and Wheelbarrows	0 80	1 05
Salt, per Liverpool Sack	0 70	0 95

Passage—Savannah to Atlanta, $10; Children, under 12 years of age, half price, Savannah to Macon, $7.

☞ Goods consigned to the subscriber will be forwarded free of Commissions.

☞ Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, *Forwarding Agent, C. R. R.*
Savannah, Aug. 15th, 1846. 1y34

BALTIMORE AND OHIO RAILROAD, MAIN STEM. The Train carrying the Great Western Mail leaves Baltimore every morning at 7½ and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with—the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry — with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5½ P. M. Fare between those points $7, and 4 cents per mile for less distances. Fare through to Wheeling $11 and time about 36 hours, to Pittsburgh $10, and time about 32 hours. Through tickets from Philadelphia to Wheeling $13, to Pittsburgh $12 Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5½ P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare $1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. s13y1

CENTRAL RAILROAD—FROM SAVANnah to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, $8 00. Freight—

On weight goods generally	50 cts. per hundred.
On measurement goods	13 cts. per cubic ft.
On brls. wet (except molasses and oil)	$1 50 per barrel.
On brls. dry (except lime)	80 cts. per barrel.
On iron in pigs or bars, castings for mills, and unboxed machinery	40 cts. per hundred.
On hhds. and pipes of liquor, not over 120 gallons	$5 00 per hhd.
On molasses and oil	$6 00 per hhd.

Goods addressed to F. Winter, Agent, forwarded free of commission. THOMAS PURSE,
y40 Gen'l. Sup't. Transportation.

SOUTH CAROLINA RAILROAD.—A Passenger Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia..... 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

r25 JOHN KING, Jr, *Agent.*

THE WESTERN AND ATLANTIC Railroad.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer.
Atlanta, Georgia, April 16th, 1846. 1y1

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	$3·50 and	$3·00
" " Reading,	58	2·25 and	1·90
" Pottsville "	34	1·40 and	1·20

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore...8 a.m. and 10 p.m.
Baltimore for Philadelphia...9 a.m. and 8 p.m.
Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R.
Leave Philadelphia at 3½ p.m. } No line on Sun-
Leave Baltimore at 3 p.m. } day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., *mail*, 12½ p.m., 4 p.m., 7 p.m., 10 p.m. *mail*. Wilmington to Philadelphia, 7 a.m., 1 p.m., *mail*, 4½ p. m., 7 p.m., 12½ a.m., *night mail*.

J. R. TRIMBLE,
2tf *Engineer and General Superintendent.*

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston and Dalton. 408 miles.
1st class.	Boxes of Hats, Bonnets, and Furnature, per cubic foot	$0 18	$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc	0 40	0 6½
	Cotton, per 100 lbs	0 45	0 7
	Molasses, per hogshead	8 50	13 50
	" " barrel	2 50	4 25
	Salt per bushel	0 18	
	Salt per Liverpool sack	0 65	
	Ploughs, Corn Shellers, Cultivators Straw Cutters, Wheelbarrows	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,
Sup't. of Transportation.
Augusta, Ga., July 15, 1847. 44-1y

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

		1st class.	2d class.	3d class.	4th class.	Cotton.
Between Macon	and Decatur and immediate points.	0 22½	1 54	1 05	0 81	0 86
	and Knoxville & intermediate points	0 22½	1 54	1 10	0 76	0 81
	and Chattanooga.				0 61	
Between Augusta	and Decatur and intermediate points.	0 24	1 70	1 15	0 85	0 90
	and Knoxville & intermediate points.	0 24	1 70	1 20	0 80	0 85
	and Chattanooga.				0 65	
Between Charleston or Savannah	and Decatur and intermediate points.	0 32	2 20	1 35	1 05	1 10
	and Knoxville & intermediate points.	0 32	2 20	1 40	1 00	1 05
	and Chattanooga.				0 85	

1st class.—Boxes of Hats, Bonnets and Furniture per foot.
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovels, Spades, Scythes, Smiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs.
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks, or Crates of Crockery, Hardware, and other heavy articles not enumerated below.
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Linseed Oil, per 100 lbs.

Merchandize shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.
Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot	$0 20
Second class, per 100 lbs	1 20
Cotton, per 100 lbs	0 55
Third class, per 100 lbs	0 60
Fourth class, per 100 lbs	0 50

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN, ELIJAH PACKARD, ISAAC MILLS, } SPRINGFIELD, MASS.

1y48

RAILROAD IRON—800 TONS OF THE latest and most improved pattern of T Rail—weighing about 60 lbs. to the yard, for sale by

BOORMAN, JOHNSTON & CO.,
1m ja 1 119 Greenwich St., New York.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (*See Adv.*)
J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (*See Adv.*)
TROY IRON AND NAIL FACTORY, H. Burden, Agent. (*See Adv.*)
ROGERS, KETCHUM & GROSVENOR, Patterson, N. J. (*See Adv.*)
S. VAIL, Speedwell Iron Works, near Morristown, N. J. (*See Adv.*)
NORRIS, BROTHERS, Philadelphia Pa. (*See adv.*)
FRENCH & BAIRD, Philadelphia. (*See Adv.*)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (*See Adv.*)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Co.
SETH ADAMS, Engineer, South Boston.
STILLMAN, ALLEN & Co., N. Y.
JAS. P. ALLAIRE, N. Y.
PHŒNIX FOUNDRY, N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.

OFFICE AT THE FRANKLIN HOUSE,
105 Chestnut Street,
PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, *in advance.*

RATES OF ADVERTISING.

One page per annum	$125 00
One column "	50 00
One square "	15 00
One page per month	20 00
One column "	8 00
One square "	2 50
One page, single insertion	8 00
One column "	3 00
One square " "	1 00
Professional notices per annum	5